PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

In Re Application of:

Darel Emmot

Serial No.: 10/633,104

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Confirmation No. 4784

Group Art Unit: 2145
Examiner: Swearingen, Jeffrey R.

HP Ref. 10001767-1
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For: System and Method for Routing Information in a Nodal Computer Network

APPEAL BRIEF UNDER 37 C.F.R. §41.37

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Commissioner of Patents and Trademarks
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Sir:

This is an appeal from the decision of reassigned Examiner Swearingen, in Group Art Unit 2145, mailed October 15, 2007, rejecting claims 1-22 of the present application and making the rejection FINAL.

I. REAL PARTY IN INTEREST

The real party in interest of the instant application is Hewlett-Packard Development Company, a Texas Limited Liability Partnership having its principal place of business in Houston, Texas.

II. RELATED APPEALS AND INTERFERENCES

There are no known related appeals or interferences.

III. STATUS OF THE CLAIMS

Claim 1-22 are pending in this application, and all claims were rejected by the FINAL Office Action and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

There have been no claim amendments made after the Final Office Action, and all amendments made before the Final Office Action have been entered. A copy of the current claims is attached hereto as Appendix A.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Embodiments of the invention, such as those defined by claim 1 define, in a multi-node network (see e.g., FIG. 2 and specification p. 5, lines 20-22) comprising a plurality of distributed switching nodes (*see e.g.*, FIGs 2 and 4, reference number 100, and related portions of the specification including p. 5, line 22), a method implemented in at least one of the plurality of distributed switching nodes for routing information entering the at least one of the plurality of distributed switching nodes over a first channel to one of a plurality of other channels (see e.g., FIG. 6 and related portions of the specification), the method comprising: obtaining priority information for the information (see e.g., reference number 321, and the specification p. 12, lines 18-19); ascertaining a remaining communication length for the information for each of the plurality of other channels (see e.g., reference number 324, and the specification p. 12,

lines 20-21); determining a current demand for each of the plurality of other channels (see e.g., reference number 325, and the specification p. 12, lines 21-22); and routing the information entering at the first channel to one of the plurality of other channels (see e.g., reference number 328, and the specification p. 13, lines 1-2) based upon an evaluation that considers a combination of the obtained priority information, the ascertained communication length for each of the plurality of other channels, and the current demand for each of the plurality of other channels (*see e.g.,* p.7, lines 6-10).

Embodiments of the invention, such as those defined by claim 17 define, in a multi-node network (see e.g., FIG. 2 and specification p. 5, lines 20-22) comprising a plurality of distributed switching nodes (*see e.g.*, FIGs 2 and 4, reference number 100, and related portions of the specification including p. 5, line 22), a method implemented in at least one of the plurality of distributed switching nodes for routing information out of the at least one of the plurality of distributed switching nodes over a first channel from one of a plurality of other channels (see e.g., FIG. 7 and related portions of the specification), the method comprising: obtaining priority information for the information entering the node for each of the plurality of other channels (see e.g., reference number 421, and the specification p. 13, lines 5-6); ascertaining a remaining communication length for the information entering the node for each of the plurality of other channels (see e.g., reference number 424, and the specification p. 13, lines 6-8); determining a current demand of the first channel (see e.g., reference number 425, and the specification p. 13, lines 6-7); and routing the information entering at one of the other channels to the first channel (see e.g., reference number 428, and the specification p.

13, line 13) based upon an evaluation that considers a combination of the obtained priority information for each of the plurality of other channels, the ascertained communication length for each of the plurality of other channels, and the current demand for the first channel (*see e.g.,* p.7, lines 6-10).

Embodiments of the invention, such as those defined by claim 21 define a node (*see e.g.*, FIGs 2 and 4, reference number 100, and related portions of the specification including p. 5, line 22) for routing information entering the node over a first channel (*see e.g.*, reference number 102 and p. 6, lines 24-25) to one of a plurality of other channels (*see e.g.*, reference numbers 104, 105, 106, and 108, p. 6 line 25 through p. 7, line 1) in a multi-node network comprising a plurality of distributed switching nodes, the node comprising: logic (see e.g., reference numbers 121-123 and p. 8, line 23 through p. 9, line 3) configured to obtain priority information for the information; logic (see e.g., reference number 124 and p. 9, lines 3-10) configured to ascertain a remaining communication length for the information for each of the plurality of other channels; logic (see e.g., reference number 125 and p. 9, lines 13-17) configured to determine a current demand for each of the plurality of other channels; and logic (see e.g., reference number 126 and p. 9, lines 18-19) configured to route the information entering at the first channel to one of the other channels based upon an evaluation that considers a combination of the obtained priority information, the ascertained communication length for each of the plurality of other channels, and the current demand for each of the plurality of other channels (*see e.g.,* p.7, lines 6-10).

Embodiments such as those defined by claim 5 further define that the obtaining priority information more specifically comprises retrieving a priority indicator from a header portion of the information (*see e.g.*, p. 8, lines 23-25 and p. 11, lines 1-4).

Embodiments such as those defined by claim 6 further define that the obtaining priority information more specifically comprises evaluating a payload portion of the information (*see e.g.*, p. 8, line 25 through p. 2, line 2 and p. 11, lines 1-4).

Embodiments such as those defined by claim 10 further define that the routing the information comprises a substantially balanced weighting of the obtained priority information, the ascertained communication length, and the current demand (see e.g., p. 9, line 21-24).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The FINAL Office Action rejected claims 1-4, 7-9, 12, 17-18, and 21 under 35 U.S.C. § 103(a) as being unpatentable over Dittia (US 6,828,186) in view of Perlman (US 5,243,592).

The FINAL Office Action rejected claim 5 under 35 U.S.C. § 103(a) as being unpatentable over Dittia in view of Perlman further in view of Gross (US 6,765,905).

The FINAL Office Action rejected claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Dittia in view of Perlman further in view of Knappe (US 6,922,396).

The FINAL Office Action rejected claims 10-11, 19-20, and 22 under 35 U.S.C. § 103(a) as being unpatentable over Dittia in view of Perlman further in view of Raciborski (US 6,658,000).

VII. ARGUMENT

Rejection of claims 1-4, 7-9, 12, 17-18, and 21 under 35 U.S.C. § 103(a) as being unpatentable over Dittia in view of Perlman

The Office Action rejected claims 1-4, 7-9, 12, 17-18, and 21 under 35 U.S.C. § 103(a) as allegedly unpatentable over the combination of Dittia and Perlman. Applicant respectfully requests that these rejections be overturned for at least the reasons that follow.

Each of the independent claims includes at least one common distinguishing feature. Specifically, independent claims 1, 17, and 21 respectively recite:

> 1. In a multi-node network comprising a plurality of distributed switching nodes, a method implemented in at least one of the plurality of distributed switching nodes for routing information entering the at least one of the plurality of distributed switching nodes over a first channel to one of a plurality of other channels, the method comprising:
> ***obtaining priority information for the information;***
> ascertaining a remaining communication length for the information for each of the plurality of other channels;
> determining a current demand for each of the plurality of other channels; and
> ***routing the information*** entering at the first channel to one of the plurality of other channels ***based upon an evaluation that considers a combination of the obtained priority information, the ascertained communication length for each of the plurality of other channels, and the current demand for each of the plurality of other channels***.
>
> 17. In a multi-node network comprising a plurality of distributed switching nodes, a method implemented in at least one of the plurality of distributed switching nodes for routing information out of the at least one of the plurality of distributed switching nodes over a first channel from one of a plurality of other channels, the method comprising:
> ***obtaining priority information for the information entering the node for each of the plurality of other channels;***
> ascertaining a remaining communication length for the information entering the node for each of the plurality of other channels;
> determining a current demand of the first channel; and

> ***routing the information*** entering at one of the other channels to the first channel ***based upon an evaluation that considers a combination of the obtained priority information for each of the plurality of other channels, the ascertained communication length for each of the plurality of other channels, and the current demand for the first channel***.
>
> 21. A node for routing information entering the node over a first channel to one of a plurality of other channels in a multi-node network comprising a plurality of distributed switching nodes, the node comprising:
>
> ***logic configured to obtain priority information for the information;***
>
> logic configured to ascertain a remaining communication length for the information for each of the plurality of other channels;
>
> logic configured to determine a current demand for each of the plurality of other channels; and
>
> ***logic configured to route the information*** entering at the first channel to one of the other channels ***based upon an evaluation that considers a combination of the obtained priority information, the ascertained communication length for each of the plurality of other channels, and the current demand for each of the plurality of other channels***.

(*Emphasis added.*) Claims 1, 17, and 21 patently define over the cited art for at least the reason that the cited art fails to disclose the features emphasized above.

The Office Action has cited col. 9, line 61 through col. 10, line 7 of Dittia as allegedly teaching several of these features. For example, on page 3, the FINAL Office Action cited col. 9, line 61-column 10, line 2 as teaching "determining a current demand for each of the plurality of other channels." Thereafter, on pages 3-4, the FINAL Office Action cited col. 9, line 61-column 10, line 7 as teaching "and routing the information entering at the first channel to one of the other channels based upon an evaluation that considers a combination of the obtained priority information, and the current demand for

each of the plurality of other channels." In this regard, the cited portion of the Dittia reference states:

> … Element 320 represents a buffer or queue which can optionally be partitioned into multiple buffers or queues 321-329 corresponding to different destinations, types or priorities for the data. In one embodiment, ***control logic 310, which may include one or more data structures, uses the destination of the data packets and/or lengths of the individual buffers or queues 321-329 in determining over which path or interconnection element the data should be routed***. Control logic 310 informs router 315 the path or interconnection element over which to route the data or which buffer or queue 321-329 to place the data. Router 315 then places the data into the appropriate buffer or queue 321-329, or transmits the data to or over the appropriate interconnection device.

According to this cited portion of Dittia, the control logic uses the destination of the data packets and/or lengths of the individual buffers or queues in determining the path over which the data should be routed.

First, there is no mention in the cited portion of Dittia of the use of priority data in determining which path the data should be routed over. In addition, there is no mention in the cited portion of Dittia as to the use of demand information in determining which path the data should be routed over. For at least these reasons, the application of Dittia is misplaced and therefore the rejection should be overturned.

As a separate and independent basis for the patentability of each of the independent claims, Applicant submits that the cited art also fails to disclose the claimed ***logic configured to obtain priority information*** or the claimed operation of ***obtaining priority information.*** The FINAL Office Action (p. 3) cites col. 6, lines 8-19 of Dittia as allegedly disclosing this feature. Applicant respectfully disagrees. In this regard, this portion of Dittia states:

> … In one embodiment, the switching system supports a plurality of types of services; the data structure includes a set of indicators to indicate for each type of service for each destination which of the plurality of interconnection elements were selected to receive, or remain available to receive one or more of the packets in a current distribution cycle defined for each destination and type of service; wherein a particular interconnection element is only selected a predetermined number of times in the current cycle for a particular type of service.

As can be readily verified from the above-quoted portion of Dittia, there is no disclose of obtaining priority information for the information (to be routed) entering the node. Consequently, for this independent reason, the rejection of claims 1, 17, and 21 should be overturned.

As yet another separate and independent basis for patentability, the Office Action admits that Dittia fails to disclose the claimed feature of ascertaining a remaining communication length. Instead, the Office Action alleges that Perlman teaches this feature at col. 5, line 55 through col. 6, line 1, and that it would have been obvious to combine Perlman with Dittia. Applicant respectfully disagrees.

In this regard, even assuming (*arguendo*) that Perlman indeed teaches this claimed distance information, there is no proper teaching or suggestion that this attribute would be combined along with the priority information and demand to determine the path for routing the information. In combining Perlman with Dittia, the Office Action alleged that the combination "would have been obvious … to make the most efficient routing path determination as noted in Perlman et al.'s disclosure in column 5, lines 42-45." (FINAL Office Action, p. 8). This portion of Perlman actually states: "In a commonly used distance vector routing algorithm, each router is responsible for maintaining its own distance vector, which is basically a table of the

shortest "distances" from the router to each known destination."

This rationale is both incomplete and improper in view of the established standards for rejections under 35 U.S.C. § 103.

In this regard, the MPEP section 2141 states:

> Office policy has consistently been to follow *Graham v. John Deere Co*. in the consideration and determination of obviousness under 35 U.S.C. 103. As quoted above, the four factual inquires enunciated therein as a background for determining obviousness are briefly as follows:
>
> (A) Determining of the scope and contents of the prior art;
>
> (B) Ascertaining the differences between the prior art and the claims in issue;
>
> (C) Resolving the level of ordinary skill in the pertinent art; and
>
> (D) Evaluating evidence of secondary considerations.
>
> . . .
>
> BASIC CONSIDERATIONS WHICH APPLY TO OBVIOUSNESS REJECTIONS
>
> When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:
>
> (A) The claimed invention must be considered as a whole;
>
> (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
>
> (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention and
>
> (D) Reasonable expectation of success is the standard with which obviousness is determined.
>
> *Hodosh v. Block Drug Co., Inc*., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

The foregoing approach to obviousness determinations was recently confirmed by the United Stated Supreme Court decision in KSR INTERNATIONAL CO. V. TELEFLEX

INC. ET AL. 550 U.S. ___ (2007)(No. 04-1350, slip opinion, p. 2), where the Court stated:

> In Graham v. John Deere Co. of Kansas City, 383 U. S. 1 (1966), the Court set out a framework for applying the statutory language of §103, language itself based on the logic of the earlier decision in Hotchkiss v. Greenwood, 11 How. 248 (1851), and its progeny. See 383 U. S., at 15–17. The analysis is objective:
>
> "Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." Id., at 17–18.

Simply stated, the Office Action has failed to at least (1) ascertain the differences between and prior art and the claims in issue; and (2) resolve the level of ordinary skill in the art. Furthermore, the alleged rationale for combining the two references embodies clear and improper hindsight rationale. In this regard, the Office Action alleged that the rationale for the combination was "to make the most efficient routing path determination." First, this is a clearly conclusory statement, made from the Examiner's subjective viewpoint, rather than from objective teachings. In fact, the Perlman reference issued some seven years prior to the filing date of Dittia. Therefore, the disclosure of Perlman would have long been known prior to the invention of Dittia. If Perlman's disclosure would have clearly been a more efficient routing algorithm for the system of Dittia, then that algorithm would have been logically disclosed or incorporated in Dittia.

For at least these additional reasons, Applicant submits that the rejections of all claims are improper and should be withdrawn. For at least this additional reason, the rejection of independent claims 1, 17, and 21 should be overturned. As all remaining claims depend from claims 1, 17, or 21, all rejections should be overturned.

Rejection of claim 5 under 35 U.S.C. § 103(a) as being unpatentable over Dittia in view of Perlman further in view of Gross

The Office Action rejected claim 5 as being unpatentable over Dittia in view of Perlman further in view of Gross. Applicant respectfully submits that the rejection is misplaced and should be overturned. Claim 5 further defines the method of claim 1 stating that "the obtaining priority information more specifically comprises retrieving a priority indicator from a header portion of the information."

The FINAL Office Action (page 8) said that this feature is well known in the art, as disclosed in Gross in column 1, lines 28-32 and 42-44). This portion of Gross actually states:

> Each data packet includes a header which is a specified number of data bits which indicate the destination and a type of service field that is used to allow routers and servers, which are network nodes, to distinguish the priority of each data packet. … A number of prioritized queues may exist at each network node based upon the priority markings contained in the header.

In fact, the cited portion of Gross doesn't teach obtaining a priority indicator from the header. Instead, it merely teaches that the heater can contain bits that indicate a type of service field, which can be used "to distinguish the priority of each packet." For at least this reason, the rejection should be overturned.

More significantly, the Office Action combined Gross with the combination of Dittia and Perlman and alleged that the combination "would have been obvious … in order to create less routing delay in priority packets, thus increasing the quality of service … " Applicant respectfully submits that this alleged motivation fails to comply with the relevant legal precedent set forth above (see e.g., MPEP 2141). Again, the alleged motivation merely embodies the Examiner's subjective rationale, and is not supported by required objective teachings from the priori art. For at least this additional reason, the rejection of claim 5 should be overturned.

Rejection of claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Dittia in view of Perlman further in view of Knappe

The Office Action rejected claim 6 as being unpatentable over Dittia in view of Perlman further in view of Knappe. Applicant respectfully submits that the rejection is misplaced and should be overturned. Claim 6 further defines the method of claim 1 stating that "the obtaining priority information more specifically comprises evaluating a payload portion of the information."

Like the rejection of claim 5, the FINAL Office Action (page 9) said that this feature is well known in the art, as disclosed in Knappe in column 9, lines 1-5). This portion of Knappe states:

> Note, processor 33 may determine priority by examining a priority indicator in a packet, by determining the type of information represented by the data in the packet, from which it can determine a priority, or by using any other appropriate indicator.

The Office Action, however, combined Knappe with the combination of Dittia and Perlman and alleged that the combination "would have been obvious … order to improve congestion control for certain types of data streams, such as voice… " Applicant respectfully submits that this alleged motivation fails to comply with the relevant legal precedent set forth above (see e.g., MPEP 2141). Again, the alleged motivation merely embodies the Examiner's subjective rationale, and is not supported by required objective teachings from the priori art. For at least this additional reason, the rejection of claim 6 should be overturned.

Rejection of claims 10-11, 19-20, and 22 under 35 U.S.C. § 103(a) as being unpatentable over Dittia in view of Perlman further in view of Raciborski

The Office Action rejected claims 10-11, 19-20, and 22 as being unpatentable over Dittia in view of Perlman further in view of Raciborski. Applicant respectfully submits that the rejection is misplaced and should be overturned. As an example, claim 10 further defines the method of claim 1 stating that "the routing the information comprises a substantially balanced weighting of the obtained priority information, the ascertained communication length, and the current demand."

Like the rejection of claim 5, the FINAL Office Action (page 10) said that "Raciborski et al. Teaches that these factors used in determining the route can be balanced equally together or unbalanced together (column 22, lines 52-59 and column 20, lines 35-40). These portions of Raciborski state:

> In another embodiment, all of the aforementioned methodologies are combined to determine QOS. To determine QOS, each of the

methodologies is performed and a QOS factor for each methodology is returned. The QOS factors from each of the methodologies are then normalized and aggregated to form a single QOS factor for each analyzed path. Normalizing the QOS factors can be done by equally weighting each of the methodologies.

...

In other embodiments, values returned from each of the methodologies are disparately weighted prior to aggregation. Weighting factors can be provided by a user to affect the QOS factor returned.

As can be readily verified, this teaching of Raciborski is concerned with determining a QOS (or quality of service). Significantly, it is not directed to a method for routing information entering the at least one of a plurality of distributed switching nodes over a first channel to one of a plurality of other channels. Consequently, even if Raciborski is combined with Dittia and Perlman, the resulting combination still fails to realize the claimed embodiment. For at least this reason, the rejection of claim 10 should be overturned.

More significantly, the Office Action combined Raciborski with the combination of Dittia and Perlman and alleged that the combination "would have been obvious … to determine the route from a source to a destination as taught by Raciborski." However, this rationale/conclusion is clearly misplaced. As with the other rejections, Applicant respectfully submits that this alleged motivation fails to comply with the relevant legal precedent set forth above (see e.g., MPEP 2141). Again, the alleged motivation merely embodies the Examiner's subjective rationale, and is not supported by required objective teachings from the priori art. For at least this additional reason, the rejection of claim 10 should be overturned. Claims 11, 19-20, and 22 should be overturned for similar reasons.

CONCLUSION

Based upon the foregoing discussion, Applicant respectfully requests that the Examiner's final rejection of claims 1-22 be overturned by the Board.

In addition to the claims of Appendix A, Appendix B attached hereto indicates that there is no evidence being submitted in connection with this Appeal Brief, and Appendix C attached hereto indicates that there are no related proceedings.

The fee for this Appeal Brief is authorized to be charged to Hewlett-Packard Company's deposit account (08-2025). Accordingly no additional fee is believed to be due in connection with this substitute brief. If, however, any additional fees are deemed to be payable, you are hereby authorized to charge any such fees to deposit account No. 08-2025.

Respectfully submitted,

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VIII. CLAIMS - APPENDIX

1. In a multi-node network comprising a plurality of distributed switching nodes, a method implemented in at least one of the plurality of distributed switching nodes for routing information entering the at least one of the plurality of distributed switching nodes over a first channel to one of a plurality of other channels, the method comprising:

obtaining priority information for the information;

ascertaining a remaining communication length for the information for each of the plurality of other channels;

determining a current demand for each of the plurality of other channels; and

routing the information entering at the first channel to one of the plurality of other channels based upon an evaluation that considers a combination of the obtained priority information, the ascertained communication length for each of the plurality of other channels, and the current demand for each of the plurality of other channels.

2. The method of claim 1 further comprising determining a demand for channels coupled to remote nodes between a current node and a destination node and utilizing this priority information in determining a channel over which to route the information entering the at least one of the plurality of distributed switching nodes.

3. The method of claim 1 further comprising obtaining a destination node from a header portion of the information.

4. The method of claim 1, wherein ascertaining the remaining communication length more specifically comprises ascertaining a quantifiable identification of a number of intermediate nodes that the information will traverse before reaching a destination node.

5. The method of claim 1, wherein the obtaining priority information more specifically comprises retrieving a priority indicator from a header portion of the information.

6. The method of claim 1, wherein the obtaining priority information more specifically comprises evaluating a payload portion of the information.

7. The method of claim 1, wherein the ascertaining the remaining communication length comprises receiving and evaluating network information communicated from other nodes in the network.

8. The method of claim 1, wherein the ascertaining the remaining communication length comprises computing the communication length based on *a priori* information about the network.

9. The method of claim 1, wherein the determining the current demand for each of the plurality of other channels comprises evaluating a state of an output queue for each of the other channels.

10. The method of claim 1, wherein the routing the information comprises a substantially balanced weighting of the obtained priority information, the ascertained communication length, and the current demand.

11. The method of claim 1, wherein the routing the information comprises an unbalanced weighting of the obtained priority information, the ascertained communication length, and the current demand.

12. The method of claim 1, wherein the information is embodied in a packet.

13. The method of claim 1, wherein the information is embodied in a flit.

14. The method of claim 1, wherein the information is embodied in a plurality of flits that collectively comprise an information packet.

15. The method of claim 14, wherein the routing is performed on a per-flit basis.

16. The method of claim 14, wherein the routing is performed on a first flit, and remaining flits in information packet are routed to the same other channel as the first flit.

17. In a multi-node network comprising a plurality of distributed switching nodes, a method implemented in at least one of the plurality of distributed switching nodes for routing information out of the at least one of the plurality of distributed switching nodes over a first channel from one of a plurality of other channels, the method comprising:

obtaining priority information for the information entering the node for each of the plurality of other channels;

ascertaining a remaining communication length for the information entering the node for each of the plurality of other channels;

determining a current demand of the first channel; and

routing the information entering at one of the other channels to the first channel based upon an evaluation that considers a combination of the obtained priority information for each of the plurality of other channels, the ascertained communication length for each of the plurality of other channels, and the current demand for the first channel.

18. The method of claim 17, further comprising determining a demand for channels coupled to remote nodes between a current node and a destination node and utilizing this information in determining a channel over which to route the information entering the at least one of the plurality of distributed switching nodes.

19. The method of claim 17, wherein the routing the information comprises a substantially balanced weighting of the obtained priority information, the ascertained communication length, and the current demand.

20. The method of claim 17, wherein the routing the information comprises an unbalanced weighting of the obtained priority information, the ascertained communication length, and the current demand.

21. A node for routing information entering the node over a first channel to one of a plurality of other channels in a multi-node network comprising a plurality of distributed switching nodes, the node comprising:

logic configured to obtain priority information for the information;

logic configured to ascertain a remaining communication length for the information for each of the plurality of other channels;

logic configured to determine a current demand for each of the plurality of other channels; and

logic configured to route the information entering at the first channel to one of the other channels based upon an evaluation that considers a combination of the obtained priority information, the ascertained communication length for each of the plurality of other channels, and the current demand for each of the plurality of other channels.

22. The method of claim 1, wherein the logic configured to route the information is configured to route the information based upon a substantially balanced weighting of the obtained priority, the ascertained communication length, and the current demand.

IX. EVIDENCE - APPENDIX

None

IX. RELATED PROCEEDINGS- APPENDIX

None.